

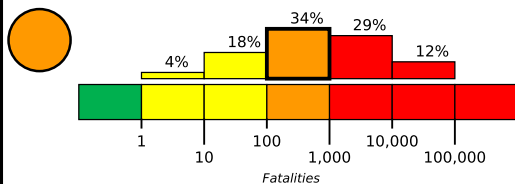
M 5.9, 57km NE of Hashtrud, Iran

Origin Time: 2019-11-07 22:47:05 UTC (Fri 02:17:05 local)

Location: 37.8103° N 47.5525° E Depth: 10.0 km

Created: 58 minutes, 39 seconds after earthquake

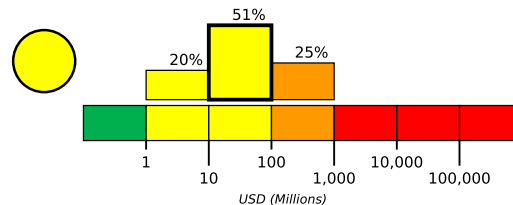
Estimated Fatalities



Orange alert for shaking-related fatalities. Significant casualties are likely and the disaster is potentially widespread. Past events with this alert level have required a regional or national level response.

Yellow alert for economic losses. Some damage is possible. Estimated economic losses are less than 1% of GDP of Iran.

Estimated Economic Losses

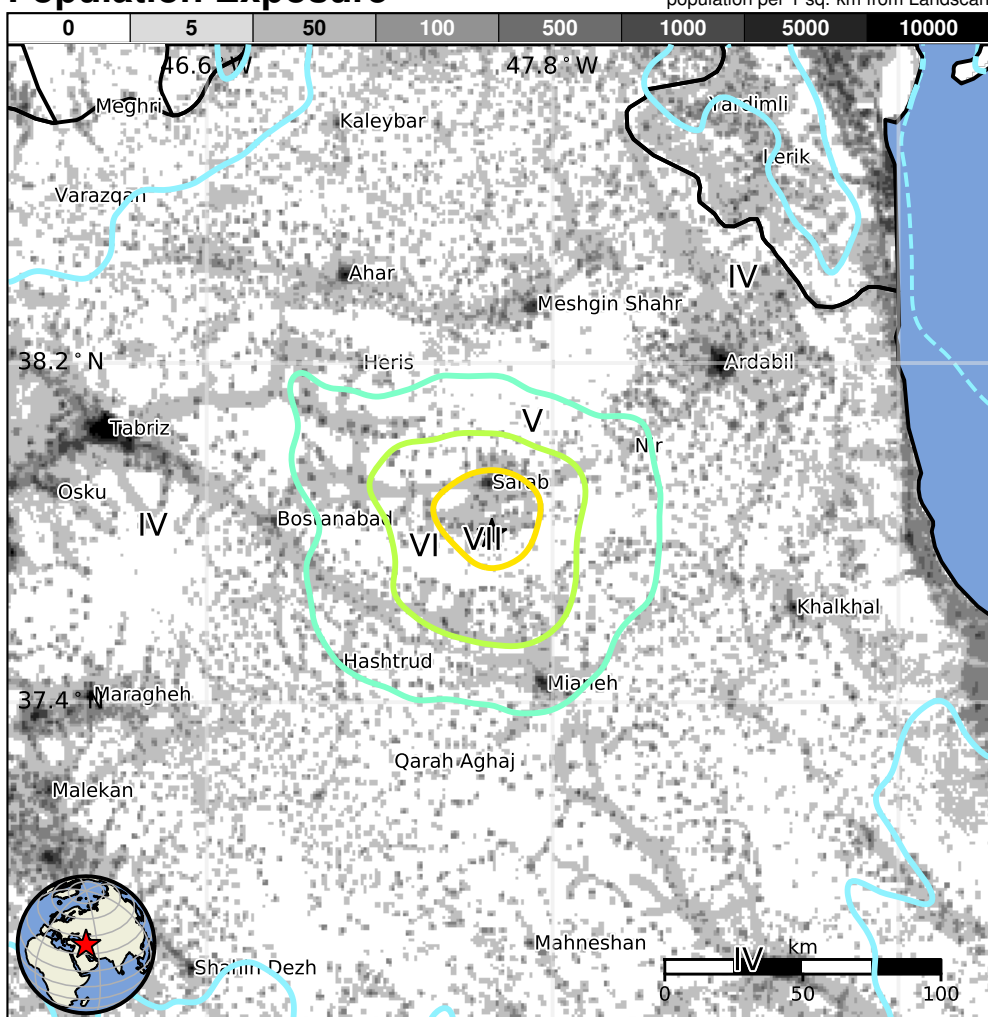


Estimated Population Exposed to Earthquake Shaking

ESTIMATED POPULATION EXPOSURE (k=x1000)		—*	218k*	5,881k*	513k	73k	76k	8k	0	0
ESTIMATED MODIFIED MERCALLI INTENSITY		I	II-III	IV	V	VI	VII	VIII	IX	X+
PERCEIVED SHAKING		Not felt	Weak	Light	Moderate	Strong	Very Strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	Resistant Structures	None	None	None	V. Light	Light	Moderate	Mod./Heavy	Heavy	V. Heavy
	Vulnerable Structures	None	None	None	Light	Moderate	Mod./Heavy	Heavy	V. Heavy	V. Heavy

*Estimated exposure only includes population within the map area.

Population Exposure



Structures

Overall, the population in this region resides in structures that are highly vulnerable to earthquake shaking, though some resistant structures exist. The predominant vulnerable building types are adobe block and low-rise nonductile concrete frame with in-fill construction.

Historical Earthquakes

Date (UTC)	Dist. (km)	Mag.	Max MMI(#)	Shaking Deaths
1997-02-28	52	6.1	VIII(3k)	1k
1976-11-24	337	7.0	IX(33k)	4k
1990-06-20	171	7.4	IX(83k)	45k

Recent earthquakes in this area have caused secondary hazards such as landslides that might have contributed to losses.

Selected City Exposure

from GeoNames.org

MMI	City	Population
VII	Sarab	<1k
V	Mianeh	<1k
V	Maragheh	<1k
V	Ahar	94k
V	Nir	<1k
IV	Heris	<1k
IV	Ardabil	411k
IV	Tabriz	1,425k
IV	Zanjan	357k
IV	Astara	15k
IV	Lankaran	240k

PAGER content is automatically generated, and only considers losses due to structural damage.

Limitations of input data, shaking estimates, and loss models may add uncertainty.

<https://earthquake.usgs.gov/earthquakes/eventpage/us600068w0#pager>

bold cities appear on map.

(k = x1000)

Event ID: us600068w0